Dec. 16, 1941. H. T. REYNOLDS 2,266,076

WINDOW STRUCTURE

Filed May 15, 1940 5 Sheets-Sheet 1

Fig. 1.

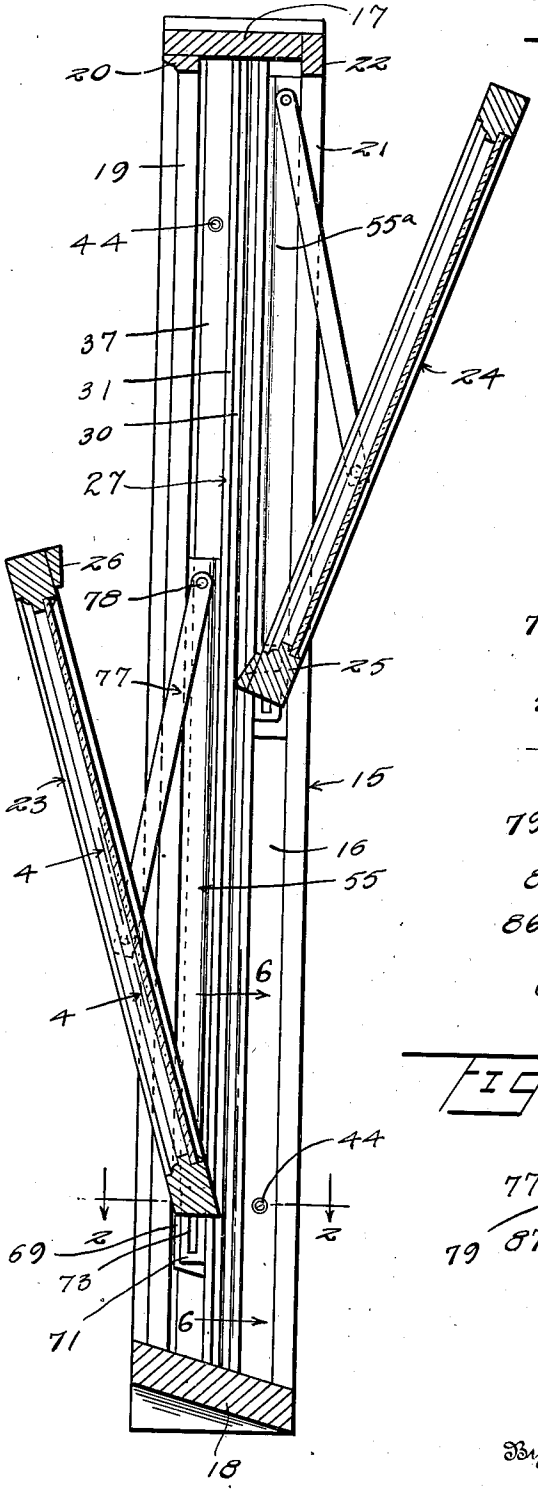


Fig. 4.

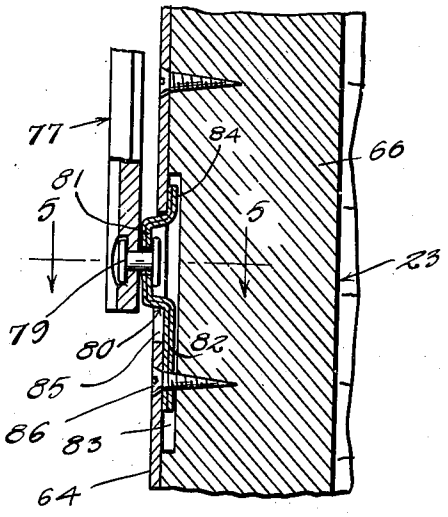
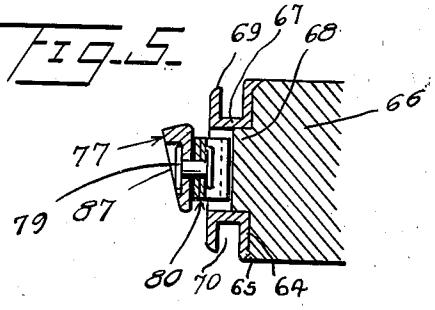


Fig. 5.



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Dec. 16, 1941. H. T. REYNOLDS 2,266,076

WINDOW STRUCTURE

Filed May 15, 1940 5 Sheets-Sheet 2

Fig. 3.

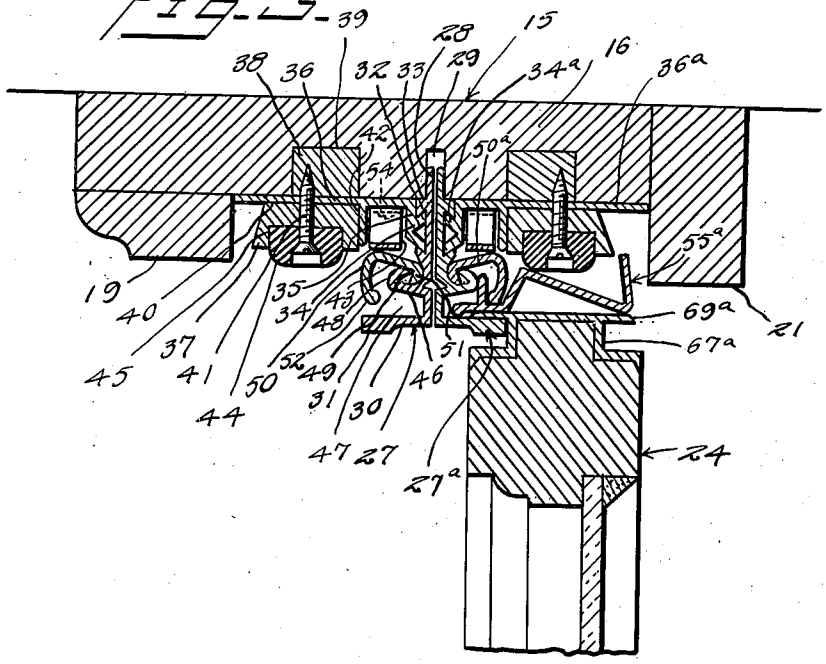
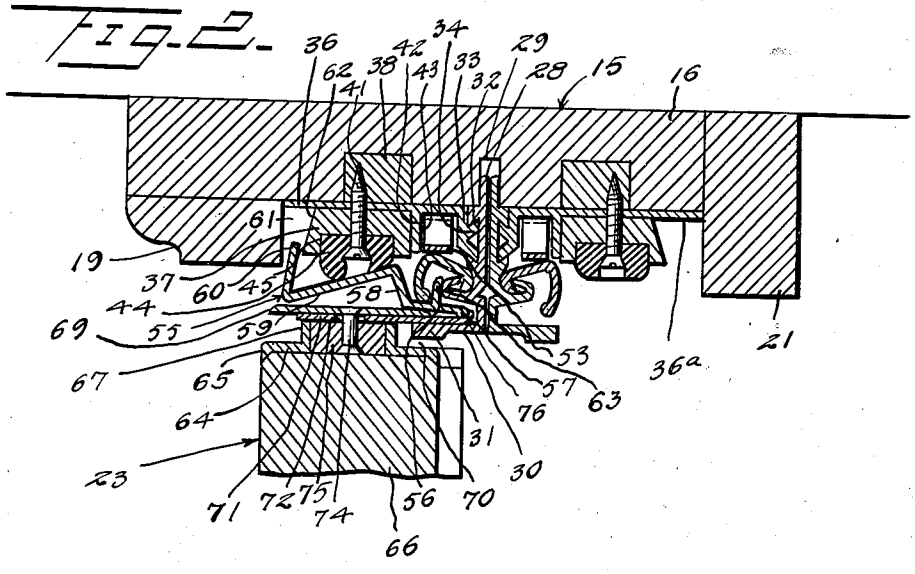


Fig. 2.



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WINDOW STRUCTURE

Filed May 15, 1940 5 Sheets-Sheet 3

Fig. 6.

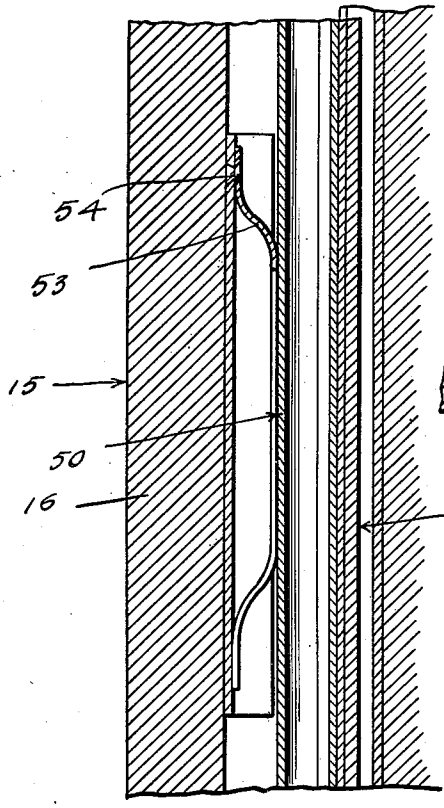


Fig. 8.

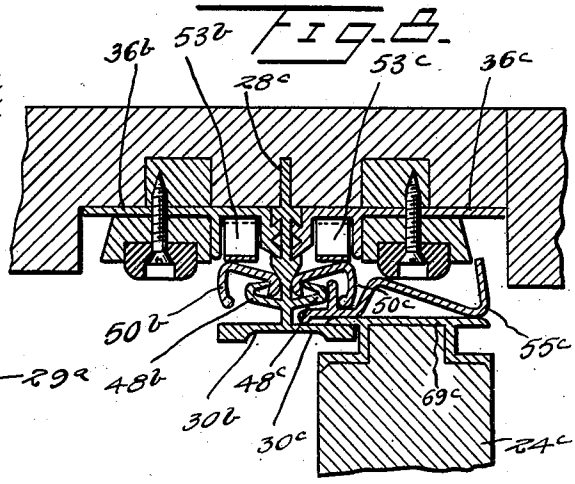
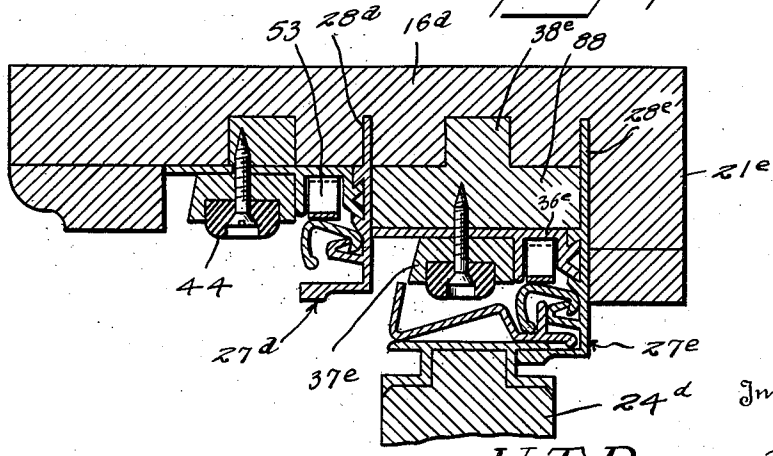


Fig. 7.



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Dec. 16, 1941. H. T. REYNOLDS 2,266,076

WINDOW STRUCTURE

Filed May 15, 1940 5 Sheets-Sheet 4

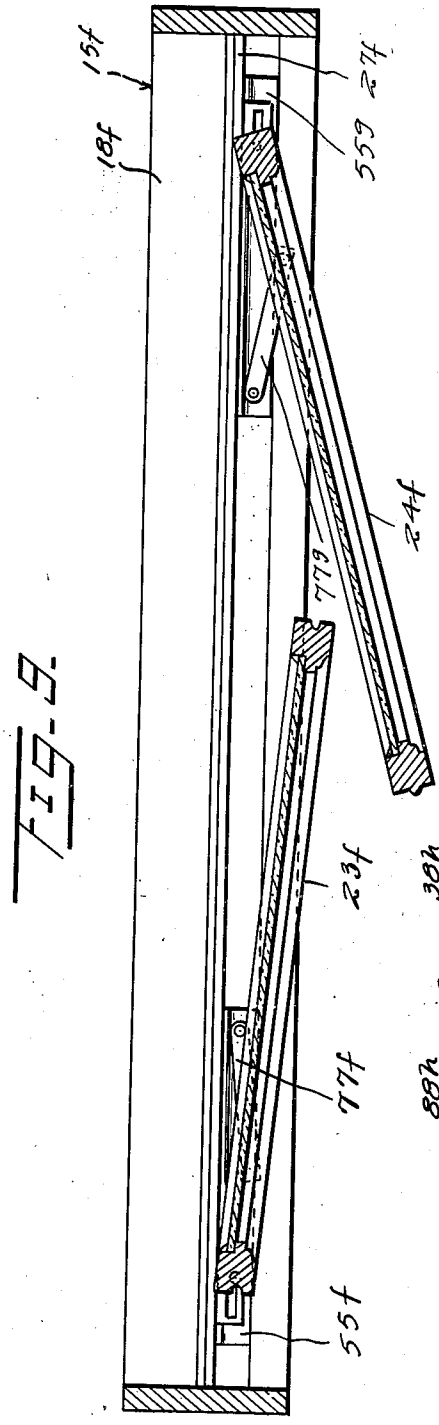


FIG. 9.

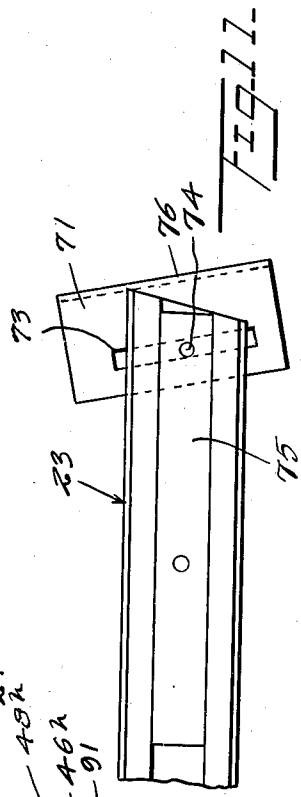


FIG. 11.

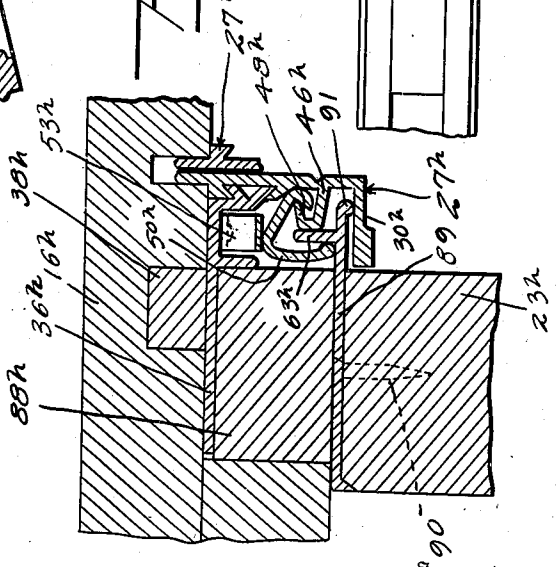


FIG. 10.

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Dec. 16, 1941. H. T. REYNOLDS 2,266,076

WINDOW STRUCTURE

Filed May 15, 1940 5 Sheets-Sheet 5

Fig. 12.

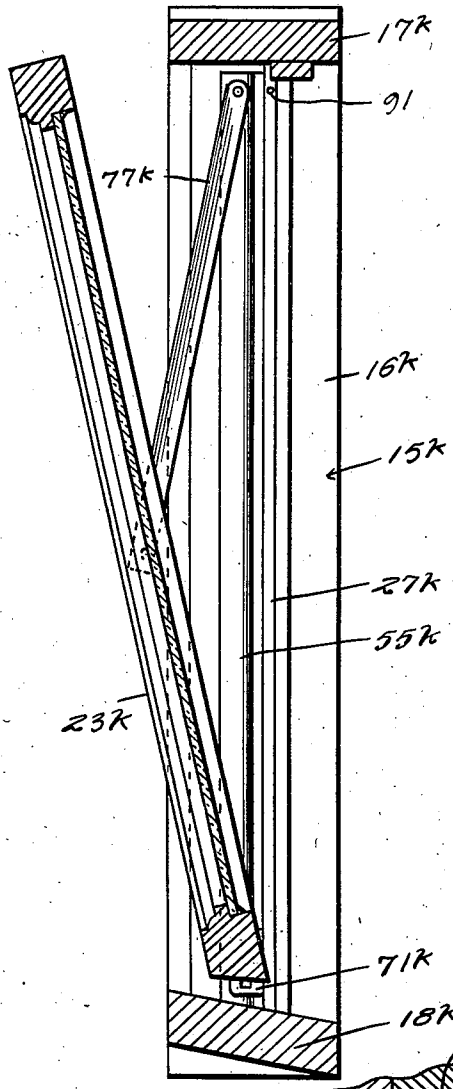


Fig. 13.

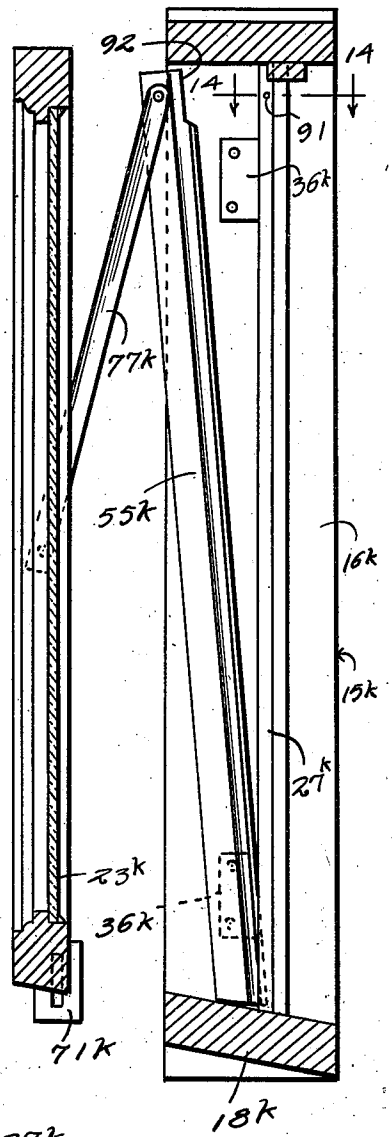
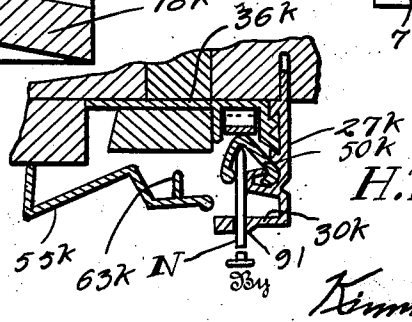


Fig. 14.



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Patented Dec. 16, 1941

2,266,076

UNITED STATES PATENT OFFICE

2,266,076

WINDOW STRUCTURE

Hamilton T. Reynolds, Huntingdon, Pa.

Application May 15, 1940, Serial No. 335,380

21 Claims. (Cl. 20—49)

This invention relates to window sashes and parting stops therefor and is an improvement over the window structure embodied in my Patent No. 2,024,877, which issued December 17, 1935.

An object of this invention is to provide an improved window structure whereby one or both sashes may be slidingly secured to the window frame and may also be swung outwardly of the window frame in such a manner that if desired, the sashes may be reversed.

Another object of this invention is to provide in a window structure, an improved sash and parting stop structure whereby the sash will be frictionally held in any desired position relative to the window frame.

A further object of this invention is to provide a combined sash and parting stop which is so constructed that when the sash is in a vertical position, the sash may be freely raised or lowered, but when the sash is swung outwardly from the parting stop and the window frame, the sash will be locked against vertical movement.

A still further object of this invention is to provide a combined sash and parting stop which is so constructed that the sash and slide may be readily released from the parting stop and frame without removing the parting stop or any other frame members from the window frame.

A further object of this invention is to provide as a new article of manufacture, an improved fitting structure including a parting stop, a slide member and a channeled sash engaging part which is so connected to the slide that upon swinging movement of the channeled part relative to the slide, the slide is locked against sliding movement relative to the parting stop.

A further object of this invention is to provide an improved parting stop structure of this kind which will not only provide means for slidingly and swingingly securing a sash to a window frame, but will also form a weather strip to seal the edges of the sash relative to the parting stop and the window.

A further object of this invention is to provide as a new article of manufacture, a combined parting stop and sash structure which may be formed out of metal and which is so formed that the metal may be readily extruded from a die so that it will not be necessary to machine any of the parts forming the combined parting stop and sash attaching means.

A further object of this invention is to provide a window fitting structure which may be readily adapted for casement windows so that the casement sashes may be slidingly secured to the frame and may be permitted to have vertical swinging movement, the fitting being so constructed that either sash if desired may be moved to an overlapping position relative to an adjacent sash and when closed both sashes are on the same plane.

To the foregoing objects and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawings wherein are shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a vertical section of a window frame structure having a sash mounting means including a parting stop mounted therein.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a view similar to Figure 1 but showing the outer or upper sash in closed position.

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 4.

Figure 6 is a sectional view taken on the line 6—6 of Figure 1.

Figure 7 is a fragmentary transverse sectional view of a modified form of this invention.

Figure 8 is a fragmentary transverse sectional view of another form of this invention.

Figure 9 is a horizontal sectional view of a casement window frame structure having a sash fitting structure mounted therein which is constructed according to a further embodiment of this invention.

Figure 10 is a fragmentary sectional view of another modification of this invention.

Figure 11 is a fragmentary view looking from the inside of the pivotal mounting for connecting the sash to the parting stop.

Figure 12 is a vertical section of a further modification of this invention.

Figure 13 is a view similar to Figure 12 but showing the method of assembling the structure in a frame.

Figure 14 is a sectional view taken on the line 14—14 of Figure 13.

Referring to the drawings and first to Figures 1 to 6, inclusive, the numeral 15 designates generally a window frame structure including vertical side members 16, an upper frame member 17 and a lower sill member 18. An inner stop 19

is secured to the vertical side members 16 and an upper inner stop 20 is secured to the inner portion of the upper frame member 17. An outer vertical stop 21 is secured to the outer edges of the side members 16 and an upper horizontal stop member 22 is secured to the outer edges of the upper frame member 17.

An inner lower sash 23 is disposed within the frame 15 and an upper outer sash 24 is disposed within the frame 15, the lower inner edge of the outer sash 24 being provided with a wedge member 25 which is adapted to engage a wedge member 26 carried by the outer upper edge of the inner sash member 23 so that when the two sashes 23 and 24 are in their vertical position, the two wedge members 25 and 26 will form a weather strip or stop between the adjacent ends of the sashes 23 and 24.

In order to provide a metal fitting structure whereby the inner sash 23 may be slidingly and swingingly supported within the frame structure 15, I have provided an inner parting stop structure generally designated as 27. The inner parting stop structure 27 includes a vertical plate 28 which is adapted to seat at its outer edge in a groove or channel 29 formed in the inner face of the vertical side member 16 of the frame 15. The inner edge of the plate 28 has formed therewith, a right angularly disposed flange 30 which at its inner portion is formed with an enlargement or flat bead 31 which acts to reinforce the free or inner edge portion of the flange 30. The plate 28 on its inner face is formed with a keyway 32 and the keyway 32 is preferably formed in an inwardly extending part 33 forming a shoulder inwardly of the outer edge of the plate 28 which is adapted to engage against the inner face of the side member 16 and serve as a means for limiting the extension of the plate 28 into the groove 29. A substantially V-shaped key 34 frictionally engages in the keyway 32 and the key 34 is carried by a right angle extension 35 formed on the outer edge of a key holding plate 36. The extension or supporting means 35 for the key 34 on its outer face, frictionally engages against the enlargement 33 and the outer face of the holding plate 36 is substantially coplanar with the outer edge of the enlargement 33. A clamping strip 37 is formed with a tongue 38 which engages in a groove 39 formed in the inner face of the side members 16, and the strip 37 is provided with a slot 40 extending transversely therethrough and through which the holding plate 36 engages.

The strip 37 may be secured in the groove or channel 39 by any suitable fastening means such as screws or the like, and preferably a screw 41 extends through the strip 37 and into the tongue 38 and provides a means for holding the plate 36 against movement relative to the strip 37. The plate 36 is provided with a right angularly disposed and inwardly projecting flange 42 which is disposed inwardly from the extension 35 and which abuts on its inner face against the outer face of the strip 37. The flange 42 forms with the extension 35 a spring receiving chamber 43, the purpose for which will be hereinafter described.

A rubber button 44 engages in a socket 45 formed in the strip 37 and preferably the screw 41 engages through the button 44 so as to hold the button 44 in the socket 45. The button 44 has a portion thereof projecting inwardly from the inner face of the strip 37, the purpose for which will be hereinafter described.

An inwardly projecting obtusely inclined flange 46 is formed integral with the plate 28 adjacent the inner edge thereof and spaced from the flange 30 and forms with the flange 30, a channel 47 within which a slide to be hereinafter described is adapted to engage. The free edge of the flange 46 is formed with a hook 48 which is directed in the direction of the plate 28 and forms with the outer face of the flange 46 a keeper 49. A slide tensioning member generally designated as 50 and which is substantially V-shaped in transverse section is provided with a bill or tongue 51 which is adapted to engage in the keeper 49 and the slide tensioning member 50 has formed on the leg thereof opposite from the tongue 51, a bead 52 which is adapted to frictionally engage the outer face of the slide so as to hold the slide against movement relative to the flange 30.

A flat or longitudinally bowed spring 53 is disposed between the flange 42 and the extension 35, one end of the spring 53 being fixed by means of a rivet 54 to the plate 36. The spring 53 bears against the convergent portion between the two sides of the slide tensioning member 50 and constantly urges the bead 52 thereof in the direction of the flange 30.

A slide member generally designated as 55 is slidable relative to and supported from the parting stop 27 and comprises a plate 56 formed at its outer edge with a bead 57 engaging in the slide channel 47 and confronting the flange 30 of the parting stop 27. An obtusely and outwardly inclined extension 58 is formed with the inner edge of the plate 56, and a plate or extension 59 is formed integral with the extension 58 and extends inwardly at substantially right angles to the extension 48. A flange 60 is carried by the inner edge of the plate or extension 59 and is disposed on an acute angle relative thereto. The flange 60 engages in a guide channel 61 formed between the inner inclined edge 62 of the strip 37 and the outer edge of the inner stop 19. A guiding flange 63 is formed integral with the plate 56 in substantially the transverse center thereof and this guiding flange 63 is interposed between the bead 52 of the slide tensioning member 50 and the keeper or hook 48. The tension of the spring 53 constantly urges the bead 52 into engagement with the flange 63 and holds this flange 63 against the keeper 48.

The sash 23 has secured to the vertical stiles thereof, a plate 64 which is formed on the opposite edges thereof with inwardly directed flanges 65 between which the stile 66 is adapted to engage. A pair of outwardly directed extensions 67 are formed with the plate 64 and preferably the stile 66 is formed with a tongue 68 engaging between the flanges or extensions 67. A slide plate 69 is carried by the outer edges of the two extensions 67 and is spaced from the plate 64 so as to thereby form a pair of longitudinally extending channels 70 in one of which the flange 30 is adapted to engage. A plate 71 is disposed in a slot 72 which is formed in the two extensions or flanges 67 adjacent the inner face of the plate 69, and this plate 71 is provided with an elongated slot 73.

A pivot member 74 engages through the plate 69 and the slot 73, and the pivot member 74 also engages through a filler block 75 which is mounted between the two extensions or flanges 67 adjacent one end of the stile 66. The plate 71 is adapted to have sliding and pivotal movements relative to the sash 66. The plate 71 has formed on the outer edge thereof an arcuate portion 76 which engages partly about the bead 57. The

plate 71 is interposed between the bead 57 and the outer face of the flange 30.

The slide member 55 is adapted to be rocked outwardly to a sash locking position by means of a link or pressure lever 77 which as shown in Figure 5 is substantially triangular in transverse section. One end of the cam lever 77 is pivotally secured by means of a pivot member 78 to the inner face of the plate 59 and the opposite end of the lever 77 is pivotally mounted on a pivot 79. The pivot 79 engages a coupling member generally designated as 80 which is formed of a pair of elongated strips having an outwardly offset intermediate portion 81 through which the pivot member 79 engages. The coupling member 80 is also formed with a relatively long part 82 extending from one side of the U-shaped member or offset 81 which engages in a recess 83 formed in the stile 66 inwardly of the plate 64.

The coupling member 80 is also formed with a relatively short part 84 extending from the opposite leg of the U-shaped member 81 which engages in the recess 83. Preferably the plate 64 is provided with an opening 85 substantially longer than the distance between the two legs of the U-shaped member 81 so that the long part 82 of the coupling member 80 may be inserted in the recess 83 through the opening 85 and then moved downwardly until the short part 84 will pass the opposite edge of the opening 85. The leg 84 may then be pushed inwardly and the coupling member 80 then moved endwise so that the short leg 84 will engage in the recess 83 inwardly of the plate 64. A screw 86 engages through the plate 64 and through the long part 82 of the coupling member 80 and into the stile 66. Due to the triangular configuration of the slide locking lever 77, when this lever 77 is swung inwardly with the inward swinging of the lower sash 23, the outer side 87 of the lever 77 will slide over the inner cam face of the plate 59 and cause the slide 55 to rock outwardly with the bead 57 serving as a fulcrum. At this time the outer face of the plate 59 will contact with a button 44 as shown in Figure 2 so as to compress this button in order that the button 44 may hold the slide 55 against sliding movement. In this manner the sash 23 is locked against vertical sliding movement when the sash is swung inwardly to an open position. When the sash 23 is swung outwardly to a closed or vertical position, the lever 77 will engage the triangular space between the plate 59 and the plate 69 and at this time, the spring 53 will swing the slide 55 in the direction of the plate 69 so as to release the plate 59 from the slide holding member 44.

The outer or upper sash 24 has secured thereto, a plate 69^a which is carried by a pair of flanges 67^a and a parting stop 27^a abuts against the parting stop 27 but is faced in the opposite direction so that the sash 24 may swing outwardly. A slide 55^a is connected to the sash 24 in the same manner as the slide 55 is connected to the sash 23, and the slide 55^a is tensioned against the parting stop 27^a by means of a V-shaped tensioning member 50^a similar to the tensioning member 50. The parting stop 27^a is held in operative position by means of a plate 36^a provided with a plate holding key 34^a. The parting stop 27^a and the parts associated therewith are similar in every detail to the parting stop 27 and the parts associated with this latter parting stop and the specific description of the parting stop 27 and its associated parts will apply equally as well to the parting stop 27^a.

In Figure 7 there is disclosed a slightly modified form of sash mounting structure wherein a parting stop member 27^d is secured to a vertical side member 16^d and a second parting stop member 27^e is also secured to the frame member 16^d. The details of constructions of the parting stop members 27^d and 27^e are similar in every detail to the details of construction of the parting stop 27 and the parts associated therewith, the only difference being that the plate 28^e is substantially wider than the plate 28^d so that the inner edge of the parting stop member 27^e will be disposed inwardly of the inner edge of the parting stop 27^d. The parting stop member 27^e faces inwardly so that the upper sash member 24^d may be swung inwardly in the same manner as the inner sash which engages the inner parting stop member 27^d. The stop anchoring plate 36^e for the plate 28^e is secured to the inner face of an elongated strip 88, which at its inner edge abuts against the outer face of the plate 28^d and at its outer edge abuts against the inner face of the outer stop member 21^e. A tongue 38^e is carried by the strip 88 and a relatively narrow strip 37^e is carried by the inner face of the strip 88. In other respects the structure shown in Figure 7 is similar to the structure shown in Figures 2 and 3.

Referring now to Figure 8, there is herein disclosed a slightly modified form of parting stop and sash mounting means wherein a supporting plate 28^c is formed on its inner edge with a pair of flanges 30^b and 30^c. The two flanges 30^b and 30^c form a T-shaped parting stop with the plate 28^c, and a slide tensioning member 50^b is rockably engaged with a keeper 48^b similar to the keeper 48. A second slide tensioning member 50^c engages a keeper 48^c which is disposed on the side of the plate 28^c opposite from the keeper 48^b. A spring 53^b is fixed to a plate 36^b and bears against the slide tensioning member 50^b. A second spring 53^c is fixed to a plate 36^c which is keyed to the opposite side of the plate 28^c. A slide member 55^c engages between the slide tensioning member 50^c and a plate 69^c which is carried by a vertical side of the upper sash 24^c. There is an inner sash associated with the flange 30^b and a slide tensioning member 50^b which is similar to the slide tensioning member 50. The only difference between the structure disclosed in Figure 8 and that disclosed in Figures 2 and 3 is that the two parting stop members 30^b and 30^c are formed integral with the supporting plate 28^c.

Referring now to Figure 9, there is disclosed a casement window frame structure 15^f which has mounted on the sill 13^f and also on the under face of the upper sill or head, a parting stop structure 27^f. The parting structure 27^f is similar in every detail to the parting stop structure 27 and a pair of sash members 23^f and 24^f are pivotally connected to a pair of slide members 55^f and 55^g, respectively. A slide locking lever and sash holding member 77^f is pivotally connected to the slide 55^f and also to the sash 23^f in the same manner as the lever 77.

A slide locking lever and sash holding member 77^g is pivotally connected at one end to the slide 55^g and at the other end to the sash 24^f. In the present instance, the two slides 55^f and 55^g are substantially shorter in length than the length of the upper and bottom rails of the two sashes 23^f and 24^f so that when one of these sashes is swung inwardly, the associated slide may be moved lengthwise of the stop member 27^f, and

if desired, the adjacent sash may be moved horizontally in its closed position to overlap the open edge of the open or partly opened sash.

In Figure 9, the two sashes 23^f and 24^f are shown in partly open position with the adjacent edge of the sash 24^f overlapping the adjacent edge of the sash 23^f. This relative position of the two sashes is accomplished by initially swinging the sash 24^f inwardly to a partly open position and then sliding the sash 23^f in its closed position in the direction of the adjacent end of the slide 55^g. When the sash 23^f has been moved in overlapping position relative to the slide 24^f, the sash 23^f may then be swung to the desired opened position and the sash 23^f will be locked in its partly opened position by means of the pressure lever 77^f. In the same manner, the pressure lever 77^g will lock the sash 24^f in its opened position.

Referring now to Figure 10, there is disclosed a further modification of this invention wherein a parting stop member 27^h is disclosed which is similar in every detail to the parting stop member 27. The parting stop member 27^h is secured to the frame member 16^h by means of a holding plate 36^h which is secured to an elongated strip 88^h formed with a tongue 38^h. In the present instance, the inner sash member 23^h has secured thereto, a plate 89 by fastening devices 90 and the plate 89 is formed with a bead 91 engaging between the flange 30^h and the flange 46^h.

A slide tensioning bar 50^h similar to the slide tensioning bar 50 is yieldably held against the plate 89 by means of a tensioning spring 53^h and the plate 89 is formed with a right angular flange 63^h which engages between one side of the V-shaped tensioning bar 50^h and a keeper 48^h. In the present instance, the sash 23^h is permitted vertical sliding movement relative to the frame member 18^h but is not permitted to have swinging movement relative thereto. It will be understood that an outer or upper sash may be disposed outwardly of the inner sash 23^h and the outer sash member may be slidingly engaged with an outer stop structure 27^i similar in every detail to the stop structure 27^h. The outer sash will be formed with a plate similar to plate 89 and the remaining structure associated with the stop member 27^h.

In the use and operation of this window structure in the event it is desired to only move either one or both of the sashes 23 and 24 to open position, the inner sash 23 may be moved vertically upwardly without swinging the sash 23 inwardly. The upper sash 24 may likewise be moved downwardly to the desired position. The springs 53 will yieldingly hold the sashes 23 and 24 in the desired position. In the event it is desired to open the lower sash 23 by swinging this sash inwardly, the sash 23 may be pulled inwardly from the top and at this time the lower pivoted end of the sash 23 will move upwardly within the slot 73 of the plate 71.

At the same time the sash holding levers 77 on the opposite sides of the sash 23 will rock the associated slides 55 inwardly against the holding buttons 44 so that the sash 23 will be locked in its open pivoted position by the buttons 44 and the pivoted end of sash held by frictional contact of plate 71 between flange 30 of parting bead and bead 57 of slide. It will, of course, be understood that the inner sash 23 may be raised to the desired position before it is swung inwardly so that the desired ventilation or circulation of air may be had through the open part of the window structure.

The upper sash 24 may likewise be swung outwardly from the top to the selected open position and if desired, this upper outer sash may be lowered to the desired point before it is swung outwardly as shown in Figure 1. In the event it is desired to reverse the sash 23, this sash may be pulled inwardly from its upper edge so that the plate 71 will slide upwardly between the slide member 55 and the flange 30. The lower sash 23 may be swung to a vertical position in its reversed position in the same manner as when the sash is in its normal position. This is due to the fact that there are two channels 70 within a selected one of which the flange 30 and the flat bead 31 may engage. The distance from the pivoted member 79 to the pivoted member 74 is slightly less than the length of the lever 77 so that when the sash 23 is reversed, the lower end of the sash which is now uppermost will be positioned below the upper end of the slide 55 and the upper end of the sash 23 which is now lowermost will be disposed in extended position below the lower end of the slide 55.

The parting stop structure 27 is preferably made out of metal which may be extruded through a die structure so that this parting stop structure can be produced without stamping or any machining. In this manner the parting stop structure and sash fitting may be produced at a relatively small cost.

The window frame and sash fitting hereinbefore described is so constructed that the parting stop slidingly supports a sash, the conventional inner and outer stops of a conventional window frame being merely used as a trim for the window frame. The supporting of the sash from the stop is accomplished by the interengaging portions of the slide tensioning bar and the slide so that the slide will be disposed in lateral extended position relative to a stop. The fitting structure hereinbefore described may be manufactured as a new article of manufacture for mounting on a conventional window frame and sash.

When so desired the parting stops may be cut to the exact length or width of a single sash and the fittings installed as hereinbefore described in which case the sash may be swung and reversed either vertically or horizontally.

A structure of this kind is illustrated in Figures 12, 13 and 14, wherein the frame 15^k has mounted in the vertical sides thereof a pair of stops 27^k which are similar in every detail to the stop 27. The stop 27^k is anchored or secured to the vertical side 16^k by anchoring or attaching plates 36^k which are keyed to the stop 27^k.

In the present instance the slide 55^k is not slidable, being of substantially the length of the distance from the sill 18^k to the head 17^k. A single sash 23^k is adapted to close the window opening and the sash 23^k is connected to the slide 55^k by means of a link 77^k similar to link 77. The lower end of the sash 23^k has a slide plate 71^k pivotally secured thereto and which is slidably engageable between the inner edge of the slide 55^k and the stop 27^k.

In Figures 13 and 14 there is shown the method of inserting the slide 55^k into the stop 27^k. This is done by inserting a nail N or other tool in a hole 91 formed in the flange 30^k adjacent one end thereof. The nail N is adapted to engage the slide tensioning member 50^k and force this member inwardly until the flange 63^k of the

slide 55k may pass the member 50k. Preferably the slide 55k is cut away as at 92 so that the slide 55k may be entirely inserted without removing the nail N. When the slide 55k is applied in position the plate 71k may also be inserted between the slide 55k and the flange 30k.

In each form of the invention shown herein the link or pressure arm 77 has a fairly loose coupling with the sash so that the link may rock transversely a slight degree and thus prevent undue strain on the pivot 79 or without distortion of the link 77.

What I claim is:

1. In a window frame, a sash, a slide, means pivotally connecting one end of said slide to said sash, a combined parting stop and slide guide means fixed relative to the frame, a slide holding means fixed relative to the frame and disposed out of contact with said slide when said sash is in parallel relation to said guide means, and means pivotally connected to said slide and to said sash for holding said sash in angular position relative to said slide, said slide and said latter means being so formed that when said sash is moved to an angular position relative to said slide, said slide will be shifted laterally into engagement with said holding means.

2. In a window frame, a parting stop fixed relative to the frame, a sash, a part movable with the sash and projecting laterally of the sash in the direction of the stop, spring-pressed means carried by said stop engageable with said part for slidably securing said sash to one side of said stop and means swingably and slidably securing said sash to said part whereby the sash may be reversed relative to the stop.

3. In a window frame, a parting stop fixed relative to said frame, a sash, a part movable with the sash and projecting laterally of the sash in the direction of the stop, spring-pressed means carried by said stop engageable with said part for slidably securing said sash to one side of said stop, and means pivotally securing said sash to said part.

4. In a window frame, a sash guiding and supporting member fixed relative to the frame, a slide interengaging said member, a sash, means pivotally securing one end of said sash to said slide, said slide having a cam face confronting the adjacent edge of said sash, a link pivotally connected to said sash and to said slide and active upon swinging of said sash relative to said slide to rock said slide relative to said member to thereby swing said slide into a locked position relative to said frame.

5. In a window frame, a sash guiding and supporting member fixed relative to the frame, a slide interengaging said member, a sash, means pivotally securing one end of said sash to said slide, said slide having a cam face confronting the adjacent edge of said sash, a link pivotally connected to said sash and to said slide and active upon swinging of said sash relative to said slide to rock said slide relative to said member to thereby swing said slide into a locked position relative to said frame, said link having a cam face on the side thereof confronting the cam face of said slide.

6. As a new article of manufacture, a fitting structure for attachment to a window frame and a sash, said fitting structure comprising a combined parting stop and sash supporting member, said stop having a keyway longitudinally thereof, an anchoring member engaging in said keyway, and means slidably carried by said member and disposed in laterally extended position therefrom for attachment to the sash for slidably securing said sash to one side of said member.

7. As a new article of manufacture, a fitting structure for attachment to a window frame and a sash, said fitting structure comprising a combined sash stop and sash supporting member, anchoring means carried by said member for anchoring said member to the frame, a slide carried by and disposed in laterally extended position relative to said member, an elongated part for attachment to the sash, means pivotally securing said part to said slide, and a link pivotally connected to said slide and said part.

8. As a new article of manufacture, a fitting structure for attachment to a window frame and a sash, said structure comprising a combined sash stop and sash supporting member, said member including an elongated plate for extension into the window frame, a right angular flange on one edge of said plate disposed parallel to and spaced from the window frame, and a spring-pressed slide tensioning member connected to said plate adjacent said flange, a slide projecting laterally of said plate and having a portion thereof frictionally engaging said tensioning member and said flange, and means carried by said slide for securing the slide to the sash.

9. As a new article of manufacture, a fitting structure for attachment to a window frame and a sash, said structure comprising a combined sash stop and sash supporting member, said member including an elongated plate, a right angular flange on one edge of said plate, and a rockable spring-pressed slide tensioning member spaced from said flange, a slide projecting laterally of said plate and having a portion thereof frictionally engaging said tensioning member and frictionally engaging said flange, a channelled member for attachment to an edge of the sash, means pivotally securing said channelled member to said slide, and means limiting the swinging movement of said channelled member relative to said slide.

10. As a new article of manufacture, a fitting structure for attachment to a window frame and a sash, said structure comprising a combined sash stop and sash supporting member, said member including an elongated plate, a right angular flange on one edge of said plate, and a rockable spring-pressed slide tensioning member spaced from said flange, a slide projecting laterally of said plate and having a portion thereof frictionally engaging between said tensioning member and said flange, a channelled member for attachment to an edge of the sash, means pivotally securing said channelled member to said slide, and means limiting the swinging movement of said channelled member relative to said slide, said limiting means including means for locking said slide relative to said supporting member upon swinging of said channelled member relative to said slide.

11. As a new article of manufacture, a fitting structure for attachment to a window frame and a pair of sashes, said structure comprising an elongated plate, a pair of right angularly disposed flanges carried by one edge of said plate, a pair of spring-pressed slide tensioning members disposed one on each side of said plate and confronting a flange, a pair of slide members projecting laterally of opposite sides of said plate and each having a portion thereof interposed between a flange and a tensioning member and another portion extending into the tensioning

member, an elongated part for attachment to a sash, and means pivotally securing said part to a slide.

12. As a new article of manufacture, a fitting structure for attachment to a window frame and a pair of sashes, said structure comprising an elongated plate, a pair of right angularly disposed flanges carried by one edge of said plate, a pair of spring-pressed slide tensioning members disposed one on each side of said plate and confronting a flange, a pair of slide members projecting laterally of opposite sides of said plate and each having a portion thereof interposed between a flange and a tensioning member and another portion extending into the tensioning member, an elongated part for attachment to a sash, means pivotally securing said part to a slide, and means limiting the swinging of said part relative to a slide.

13. In a window frame, an inner and an outer sash, a combined sash stop and sash supporting member for each sash connected to one side of the window frame and extending inwardly therefrom, said members being disposed in spaced apart parallel relation and formed with right angular flanges spaced from and disposed parallel to said side, a slide engaging each member on the rear side thereof, and means pivotally securing a sash to a slide, the outermost of said members projecting inwardly a distance greater than the other member whereby the outer sash may be swung in the same direction as the inner sash.

14. In combination, a casement window structure comprising a window frame, upper and lower sash stops fixed to the frame, a plurality of alined slide members slidingly and rockably carried by each stop and projecting laterally thereof, a plurality of sash members, slide rocking means swingably securing said sash members to said slide members, said slide members having a length substantially less than a sash member whereby one sash member may be swung to at least a partly opened position and an adjacent sash may be horizontally shifted to overlapping position relative to said one sash member and means carried by said frame correlated with said securing means engageable with a slide upon swinging of a sash for locking the slide against movement.

15. In a window frame a stationary parting stop, a sash, a spring urged rockable part carried by said stop and projecting laterally thereof, a sash, a slide member carried by said sash adjacent one end thereof and interposed between said part and said stop, and a pressure link pivotally connected to said sash and said part, said link and said part including interengaging cam means for placing said part under tension upon swinging of said sash to an open position.

16. In a window frame structure, a parting stop, a slide movably carried by said stop, a sash, link means swingably securing said sash to said slide adjacent one end thereof, and a second slide carried by said sash and engaging between said first slide and said stop whereby said sash may be swung to a reversed position relative to said stop.

17. In a window structure, a sash, a parting stop, a slide carried by and extending from one side of said stop, and means swingably securing said sash to said slide for swinging movement perpendicular to said slide.

18. In a window structure, a sash, a parting stop, a slide carried by and extending from one side of said stop, means swingably securing said sash to said slide for swinging movement perpendicular to said slide, and spring-pressed means carried by said stop yieldably holding said slide in adjusted position relative to said stop.

19. In a window structure, a sash, a parting stop, a slide carried by and extending from one side of said stop, means swingably securing said sash to said slide for swinging movement perpendicular to said slide, spring-pressed means carried by said stop yieldably holding said slide in adjusted position relative to said stop, said spring-pressed means including an elongated rock member, and spring means urging said rock member into frictional contact with said slide.

20. In a window structure, a sash, a parting stop, a slide carried by and extending from said stop, means securing said sash to said slide, and spring-pressed means frictionally holding said slide against movement, said spring-pressed means including an elongated member V-shaped in transverse section and having a hook along one divergent edge thereof, a flange carried by said stop engageable with said hook to pivotally hold said elongated member on said stop, and spring means constantly urging the other divergent edge of said elongated member against said slide to yieldably hold said slide against movement.

21. In a window frame, a parting stop, a keyway forming means carried by said stop on one side thereof, an anchoring plate, a key carried by said plate engaging said anchoring means, means securing said plate to said frame, a slide, means slidably securing said slide to said stop, a sash, a link pivotally secured to said slide adjacent one end thereof and also pivotally secured to said sash intermediate the opposite ends thereof, a second slide interposed between said first slide and said stop, and a loose pivotal connection between said second slide and an end of said sash whereby said second slide may move independently of said first slide upon outward swinging of said sash.

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